

Application: Tobacco plant - Conditioning Cylinder Discharge

Data

OEM : not available
Environment : Indoor, high humidity level
Product on belt : Tobacco leaf, high moisture*, temperature: 300° F (148.89° C)

Process description:

The process begins with whole tobacco leaves that are packaged in bales. In order to loosen the tight bales and separate the leaves, the bales go in to a conditioning cylinder. In this cylinder the tobacco is also steam-heated to kill any insects that may be present.

After conditioning, the heated tobacco drops on a 10° incline conveyor belt that transports it to the next step in the process. At the end of the belt the tobacco has been cooled down to the temperature of 150° F (65.55° C).



Belt requirements:

Heat resistant:

The tobacco will still be hot when it's being dropped onto the conveyor belt: approximately 300° F (148.89° C).

Good Release:

The hot, moist, tobacco has a tendency to stick to the belt.

FDA approved:

Since there is a consumption product involved, the belt must meet FDA standards.

Problem with previous belt:

5-ply EVA belt

To keep tobacco from sticking to the belt, two metal scrapers (\$2000 each) were being used. The scrapers damaged the cover, reducing belt life to just 12 weeks.

Solution:

SLMT-2, Chemprene 2-ply White Silicone Monofilament belt

The SLMT-2 releases the tobacco so well that the metal scrapers are no longer necessary. Instead two small pieces of scrap belt are used to clean the belt.

The SLMT-2 also meets the high temperature requirements with a maximum continuous temperature rating of 350° F (176.67° C).

Service life of the SLMT-2 in this application is 17- 18 months, six times the life of the previous belt.

Details:

Minimum pulley diameter	: 8" (203.2mm)
Center to center distance	: 6' (1.8288m)
Belt width	: 55" (1397mm)
Splice	: Mechanical lacing
Speed	: 150'/min (45.72 m/min)
Support	: Slider bed
Maximum incline	: 10°
Troughed	
FDA approved	

Remark:

In this application the belt has no knife edges, no crowning, and no reverse bends.

* For belts with a silicone cover, the moisture level of tobacco being carried should be above 18%. If the moisture level drops below this point, it may cause a static build up which will hold the tobacco to the belt.